# FOREST MANAGEMENT UPDATE

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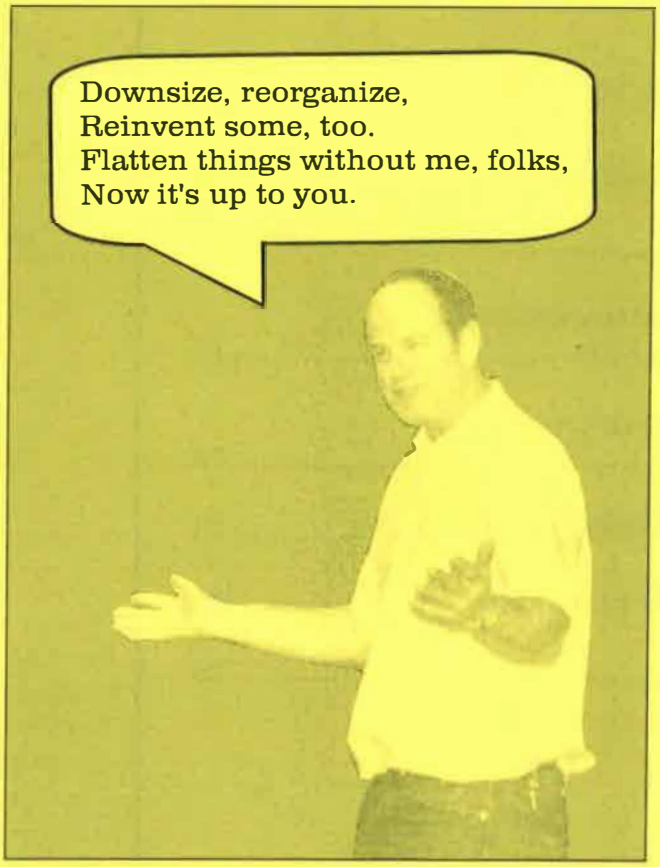


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NORTHEASTERN AREA
*State and Private Forestry*

# Where Will the Wood Come From?

*by Arlyn W. Perkey*

There are changes taking place in the multiple-use woods that have provided the timber resources needed to sustain the phenomenal economic growth that has occurred in this country since World War II. The relatively recent clamor to constrain the management of timber on national forests is causing a shift in the sources of supply of raw materials needed to maintain the standard of living most Americans have taken for granted. With minimal judgment on whether this shift is good or bad, I would like to offer my thoughts about what this trend could mean to non-industrial private landowners in the United States.

Given the fact that less raw materials will be available from national forests, *where will the wood come from now?*

**Other Public Land?** . . . Forget it. Most public land will come under the same type of pressure to reduce timber management that is now being felt on the national forests. Now that the battle is nearly won at the federal level, many of the special interest groups opposed to timber management are shifting their efforts to state forests.

**Industrial Land?** . . . I doubt it. Most companies are not significantly expanding their land ownership base, presumably because they do not see sufficient economic advantage to owning more land. And, most of the land they do own is currently as intensively managed as they believe to be appropriate for the timber products they are planning to grow.

**Other Countries?** . . . Now this is a possibility. We could import the raw materials or finished products and make our trade deficit worse than it already is. We would shift the environmental effect of harvesting and processing of timber to other countries where we can't manage it, but we are less likely to see it. In addition, the importation of raw materials has the associated risk of importing exotic forest pests that could threaten our native tree species. This option has some distinct disadvantages for the economy of this nation, as well as for the global environment.

**Non-industrial Private Forests?** . . . This option offers some real benefits to the nation, but there are some potential problems associated with it that need to be inventoried, analyzed, evaluated, and managed.

To better understand the consequences of the shift of production of timber from public land to non-industrial private land, consider the advantages and disadvantages of these two vastly different ownership categories.

## Non-Industrial Private Ownership

| Advantages | Issues | Disadvantages |
|---|---|---|
| In instances where landowners plan the transfer of property to new owners with similar goals, continuity of management can be maintained. Ownership decisions can be made efficiently because usually only one or two people have the ownership rights and corresponding authority to make decisions. | ***Continuity of Management*** | Continuity of management from one landowner to another is often lacking. New owners may not be aware of the range of natural resource goals that can be accomplished with a reasonable degree of compatibility. Also, the benefits of long-term forest management activities don't occur within a time frame that makes them important to many landowners. |
| Educated landowners advised by trained land managers are more likely to be aware of long-term investment opportunities because few opportunities go unnoticed. Landowners must have enough knowledge about management activities to know when to seek assistance, where to get help, and if the service provided is acceptable. | ***Term of Investment*** | Most landowners don't have a strong natural resource background. The lack of knowledge about long-term investment, what to do, and how to do it often results in doing nothing. Those who do become aware of what could be done often do not take action because they are afraid of doing it wrong. They frequently lack confidence in their ability to be successful. |
| Because ownerships are small, the amount of capital that any one owner must have to make worthwhile investments is usually small, as well. | ***Size of Ownership*** | The per unit (acre) cost of management services is relatively high because many ownerships are small. The minimum area needed for effective multi-use management activities, especially wildlife management, is larger than many non-industrial private ownerships. |
| Many non-industrial private ownerships are on productive sites that are well accessed by existing public roads. Consequently, high-quality timber products may be grown and marketed fairly efficiently. | ***Access to Ownership and Productivity of Land*** | While many ownerships are on productive sites, they often are in poor condition because of past land use. Many sites are on abandoned agricultural land. In many cases, sites that were not converted to agricultural use have been repeatedly high-graded in past logging operations. |

**Can we be successful? . . . Absolutely!**

We have the natural resources. We have the human resources, including landowners with a high level of general education and management experience. We have a free enterprise system that has the potential to provide financial rewards for prudent investments. We have public and private institutions with the capability of designing programs to facilitate accomplishment of goals that provide benefits to public and private entrepreneurs.

We can capture this market opportunity and supply a greater portion of the timber resource for this nation — and do it using environmentally sensitive management practices. But first, we must develop the mechanisms to encourage management of a larger portion of this landownership category in a way that will produce public benefits while accomplishing landowner goals.

**What do we need to do?**

We have many things currently going that are working; however, they are not working at the level needed. It does not necessarily follow that we need to just do more of what we are already doing. Even if that were the case, we probably would not have access to the financial resources to make it happen. So how do we work smarter than we have?

Each of us may have our own answer to that question. Here is one of my thoughts:

**On a trial basis, establish a forest enterprise zone with the intent of testing the theory that focusing the efforts of all partners in one high-opportunity area can result in bringing a large percentage of the non-industrial private ownership under management.**

**The best opportunity for developing efficient and effective forest management programs for non-industrial private landowners is in rural communities where forest management activities are more likely to be accepted and even welcomed by the community. Overlaying areas where forest management is socially acceptable with areas that have highly productive sites and good transportation networks could enable us to direct our efforts to a portion of the country that will provide the greatest benefit for the least cost. In that geographic area our goal should be to have 80 percent of the non-industrial private forestland managed by natural resource professionals.**

programs have been the primary means of delivering private industrial assistance to non-industrial private landowners. To a large degree, these efforts have been disproportionately supported by the larger forest industries that manufacture paper and reconstituted fiber products. The small solid wood products industries that are most dependent on high-value timber resources have generally been less active in assistance programs.

**What is Needed** — A relatively small, solid wood products firm interested in a "green marketing strategy" needs to commit to supporting the program. In addition to providing the market for the high-value timber resource, they need to have a trained labor force available for a fee to do management activities.

This is more than just having a few trained contract logging crews available to do commercial timber harvesting; although that is important, too. Implementing a complete forest management program means doing precommercial as well as commercial work. While landowners and public cost-share incentive programs can help pay for these management activities, having a trained work force available to implement them efficiently and effectively is critical.

A small industry could commit to have that work force available for hire. The reward for maintaining the work force would be the justifiable claim to be actively participating in a management program that provides timber resources on a sustainable basis. Being able to show industry participation in regeneration and precommercial cultural activities on non-industrial private land will indicate that industry is committed to sustainable forest management.

## Natural Resource Consulting Support

**Current Status** - The work force of successful natural resource professionals is growing, but not fast enough. Increasing the amount of management activity on the non-industrial private forest is closely tied to increasing the number of well-trained consultants. Consultants must not only be knowledgeable in their chosen fields of expertise, they must also be good business people. If you are unable to generate enough business to stay profitable, you can't continue to be a consulting land manager. In general, most natural resource professionals do not put much emphasis on developing large consulting firms. While this is understandable from a personal career perspective, it has been a limiting factor in the growth of the consulting sector of natural resource professionals.

**What is Needed** — In the trial area, there must be a core of consultants willing to expand their businesses and committed to providing quality service at an affordable price. Professionals from a variety of natural resource disciplines will be needed to provide a complete range of services.

## *A Tribute to Clay*

*For no fame,*
*For no fortune,*
*For no glory did he quest.*
*He just did his job and did it well,*
*His accomplishments attest.*

*We wish him well,*
*We wish him luck,*
*Our mission carries on.*
*But it's hard to struggle forward*
*When you lose a paragon.*

We dedicate this issue of the Forest Management Update to our friend and co-worker, Clay Smith, who retired from the Forest Service in February. To say we miss him is an understatement. But we know we're not alone — Clay is sorely missed by many, and his shoes will be hard to fill. The research that he has conducted over the years at the Fernow Experimental Forest in Parsons, West Virginia, is invaluable. So many of us have benefited from the results of Clay's work, and we will continue to do so for years to come. His esteemed reputation is second to none; his accomplishments are enviable. We are proud to have been associated with him and sincerely wish Clay well in his retirement endeavors.

Clay requested no farewell fuss,
And everyone respected that — but us.
We printed our thoughts for our satisfaction,
If Clay objects, we'll just print a retraction.

## Stump Sprout or Seedling Sprout?

A major source of regeneration after harvest cutting is sprouts. Sprouts from stumps greater than 2 inches in diameter are called stump sprouts. Sprouts from stumps less than 2 inches in diameter are called seedling sprouts. In comparison to seed-origin seedlings of the same size, seedling sprouts are usually superior because they are nourished by already established root systems. For this reason, they grow more rapidly than seed-origin seedlings.

A seedling sprout can readily be identified in the field by its enlarged basal crook. A slice with a sharp knife across an underground root stock will often reveal 10 or more growth rings. This simple aging technique tells us that a single seedling sprout has died back again and again — but still survives! Frequently, the cause of dying back is browsing by deer.

## Patch Clearcutting Described

*This 3-acre patch clearcut was predominantly white oak, red oak, and hickory.*

In March of 1965, a 50- to 60-year-old upland oak-hickory stand was clearcut on a 3-acre area at the Stone Valley Experimental Forest in Huntingdon County, Pennsylvania. The test site was established on a 7 to 23 percent slope with a northwest facing aspect. Tops, branches, and logging slash were left undisturbed on the forest floor. No special efforts were made by loggers to cut "low" stumps. All stems two inches or larger at diameter breast high (dbh) were cut. In addition to merchantable and non-merchantable hardwood timber species, removal also included competing understory species such as bluebeech, hophornbeam, downy serviceberry, and dogwood. The area was not fenced to prevent deer browsing. Deer population at that time is estimated to have been lower than it currently is.

Seedlings originating from large seeds, mostly acorns and hickory nuts, were virtually non-existent on this patch clearcut. Therefore, successful natural regeneration depended primarily on the number, quality, and distribution of stump and seedling sprouts available after cutting.

The scarcity of seed-origin seedlings from heavy-seeded species can be partially explained by losses to squirrels, chipmunks, and other foraging rodents. With the exception of light-seeded aspen and occasional birch, very little, if any, seed was disseminated from the adjoining hardwood stand.

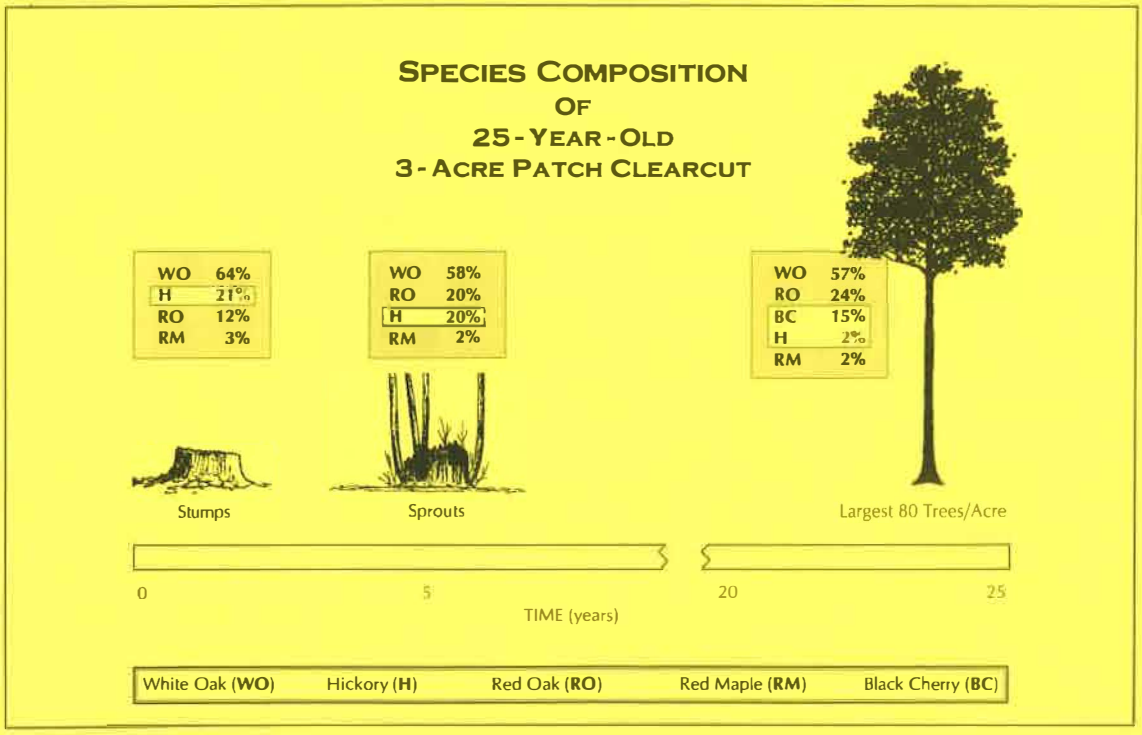
## Five-Year Sprout Growth

Five years after timber harvesting, red oak stumps produced the tallest and largest diameter sprouts, and on a percentage basis, the greatest number of stumps with sprouts. However, white oak stumps produced the highest number of sprouts per acre, closely followed by hickory. Red maple sprouts were few in number and shorter than their major competitors. At age 5, it appeared the species composition of the new stand would be primarily white oak, red oak, and hickory, with adequate growing space for individual stump-origin sprouts.

Deer browsing began to increase the first growing season after cutting, and the increase continued for several years until the succulent new sprouts became too large and woody to be palatable to the deer. After five years, the rapidly growing stump sprouts were beyond the reach of deer. Based on the number and spacing of stumps with one or more dominant sprouts per stump, the new stand was adequately stocked with desirable, commercial hardwood species.

## Twenty-Five Year Results

The removal of undesirable woody competitors in the cleaned blocks at age 7 years did not result in a marked contrast in overall species composition between treated and control blocks. In both cases, when the largest 80 trees/acre are examined (at age 25), it appears the stand will be dominated by white oak (57%), red oak (24%), and black cherry (15%). There is a modest aspen component, but it is assumed to be relatively short-lived. Hickory and red maple account for 2 percent each of the largest 80 trees/acre at age 25.




*Species composition was determined by identifying stumps, stump sprouts, and the largest 80 trees/acre at ages 0, 5, and 25.*

*At 25 years of age, the stand included potentially valuable crop trees like this 8-inch dbh red oak that was pruned to improve the quality of the butt log.*

Early pruning accelerates development of a clear bole in hardwoods and can result in a higher percentage of grade lumber produced in sprout-origin stands. However, the effects of pruning to improve bole quality are usually not realized until merchantability is reached. At age 25, it is difficult to determine the long-range effects of early pruning on stem quality.

Resprouting or "feathering out" (epicormic branching) along the bole of the pruned trees was found to be insignificant in this study. A comparison of the number and relative quality of releasable timber crop trees on the treated and untreated plots has not been done. This evaluation could reveal a difference in income-producing potential because of an increase in the number of potentially high-value timber crop trees on the treated plots.

**Recommendations**

A cleaning at age 7 did not alter the species composition or growth of the largest 80 trees/acre at age 25. Would a treatment at this time be appropriate? Applying a crop tree release treatment when the trees are at least 25-30 feet tall (in this stand at age 15-20) has accelerated growth of crop trees in other sapling- and pole-size stands in the Appalachians. That technique would be effective in this stand at this time.

Applying a crown-touching release to individual crop trees allows crown expansion, which produces a significant growth response. If retaining hickory as a component is important to accomplishing an objective, the treatment should be completed as soon as possible. At age 25, hickory accounts for only 2 percent of the 80 largest trees in diameter in the stand. However, the height of the dominant and co-dominant hickory in the preceding table indicates that many of these trees may still have sufficiently vigorous crowns to warrant release. The longer the treatment is delayed, the fewer crop tree selection options there will be.

*At 14 years of age, the patch clearcut no longer looked like a clearcut. It was almost 25 feet tall and ready for a crop tree release treatment. The area on the left was not cleaned and pruned at age 7. The area on the right was.*

**Q.** *Is clearcutting the only way to obtain stump sprouts?*

**A.** No. Stump sprouts can develop from other silvicultural treatments, such as shelterwood, seed tree, and selection cuts. However, clearcutting is most appropriate for light-demanding species. Clearcutting also provides food and cover for wildlife for a period of five years or more after cutting.

**Q.** *Is there any "best" time of year for cutting trees to stimulate stump sprouting?*

**A.** Yes. Parent trees should be cut during the dormant season (from late fall to early spring), before bud break. This gives the new sprout the whole season to grow and then "harden-off" before fall frosts occur. Reserves of carbohydrates in the roots are at a maximum during the winter and lowest immediately after formation of new leaves and shoots. Therefore, it is best to cut in late fall or early winter.

**Q.** *Can I expect more sprouts from large diameter stumps or small diameter stumps?*

**A.** Most studies have shown that sprouting of hardwoods is highest on stumps up to 8 inches in diameter. Sprouting generally declines with increasing stump diameter. The smaller and younger the tree, the greater the sprouting potential.

**Q.** *Is there any practical way I can prevent deer from browsing the stump sprouts and seedlings I want to be my new crop trees?*

**A.** The answer is a qualified "YES." Options include fencing your woodlot and installing protective tree shelters. However, for many owners of small woodlots, the costs of these treatments are prohibitive. The treatment strategy used in this study provides another option that can work where deer populations are only moderately high and other sources of food are available. The strategy is simple, and it does not require high "out-of-pocket" investment. However, it is labor intensive, so the landowner must be willing to donate labor. Select one or two dominant sprouts in a sprout clump and cut all remaining multiple sprouts. The dominant sprouts of many species will soon grow beyond the deer. The deer preferentially browse on the resprouted succulent basal sprouts created by thinning the original sprout clumps. The deer's appetite is satisfied and the released stump sprouts are free-to-grow.

*One or two of these 2-year-old sprouts will eventually express dominance. Releasing them by cutting the others will accelerate their growth. Resprouting of the cut sprouts will provide succulent browse for deer.*

**Question 2.** Which trees are best adapted to growing and producing benefits on this site?

With this example, the red oak is growing much faster than the black walnut. It can produce a high-value product in a much shorter period of time. Having this kind of knowledge available enables decision makers to make good choices when selecting trees that have the greatest capability of accomplishing the landowner's objectives. When it is time to consider regeneration, the land manager will know which species are best adapted to growing on the site.

Following is crop tree growth information from various demonstration areas, along with some observations about each. Each comparison group consists of 10 trees. Abbreviations used are:

BW — Black Walnut, WA — White Ash, SM — Sugar Maple, YP — Yellow-Poplar, RO — Red Oak, RP — Red Pine, WP — White Pine, and BC — Black Cherry.

## Coopers Rock Crop Tree Demonstration Area

*Growth in Inches per Decade*
*by Species, Treatment, and Growing Season (Year)*
*in a 60-Year-Old Appalachian Hardwood Stand*

| Species | Treatment | 1989 | 1990 | 1991 | 1992 | 1993 | Average |
|---|---|---|---|---|---|---|---|
| YP | Control | 1.6 | 0.5 | 2.2 | 0.8 | 1.8 | 1.4 |
| YP | SILV[1/] | 1.0 | 1.7 | 3.0 | 1.1 | 2.1 | 1.8 |
| YP | CT | 1.9 | 2.1 | 3.5 | 1.9 | 3.0 | 2.5 |
| RO | Control | 2.0 | 1.8 | 2.0 | 2.0 | 2.6 | 2.1 |
| RO | SILV | 2.2 | 1.6 | 2.5 | 2.3 | 3.4 | 2.4 |
| RO | CT | 3.2 | 2.4 | 3.4 | 3.3 | 3.9 | 3.2 |

Control — No treatment, so most trees are unreleased.
SILV — Stand thinned to 83 sq. ft. of basal area as prescribed, with only incidental release of comparison trees.
CT — Crown-touching release of crop trees.

1/ SILVAH (SILViculture of Allegheny Hardwoods) was developed by the Northeastern Forest Experiment Station to facilitate the inventory, analysis, and prescription writing for hardwood stands in the Northeast.

## Perkey Tree Farm & Stewardship Forest

*Growth in Inches per Decade*
*by Location (Stand), Species, and Growing Season (Year)*
*on Abandoned Agricultural Land*

| Stand | Species | Group | 1991 | 1992 | 1993 | Average |
|---|---|---|---|---|---|---|
| 2 | BW | 1 | 0.8 | 2.1 | 1.4 | 1.4 |
| 2 | BW | 2 | — | — | 2.8 | 2.8 |
| 2 | WA | 1 | 2.4 | 3.0 | 2.6 | 2.7 |
| 2 | SM | 1 | 2.3 | 3.7 | 3.4 | 3.1 |
| 2 | YP | 1 | 2.4 | 2.9 | 2.1 | 2.5 |
| 3 | BW | 1 | 1.7 | 2.7 | 2.3 | 2.2 |
| 3 | RO | 1 | — | 5.3 | 4.0 | 4.7 |
| 3 | RO | 2 | — | — | 5.1 | 5.1 |
| 3 | SM | 1 | — | 4.0 | 4.0 | 4.0 |
| 3 | SM | 2 | — | — | 5.3 | 5.3 |
| 6 | RP | 1 | — | 1.3 | 1.7 | 1.5 |
| 6 | WP | 1 | 2.9 | 4.0 | 3.9 | 3.6 |
| 6 | WP | 2 | 3.5 | 5.5 | 4.7 | 4.6 |
| 7 | SM | 1 | — | — | 2.8 | 2.8 |
| 9 | BC | 1 | — | — | 2.9 | 2.9 |

Explanation:

All of the above growth measurements are on trees growing on land that was previously in agricultural use. Stand 3 is a two-aged stand that developed after grazing stopped in an old timber pasture. The crop trees are from the second generation age class that developed between residual trees when grazing stopped. The other stands developed on land that was completely cleared for tilling or grazing. The land was in agricultural use for about 150 years. For much of that time, sheep were the primary type of livestock raised. During the later agricultural period, it was a dairy farm. Livestock farming stopped about 30 years ago.

Observations:

1. On the average, the black walnut trees in Stand 2 (Group 1) are not growing well. Some individuals in that set of pole-size trees are growing less than 0.5 inch/decade. This is because

## Raystown Lake Crop Tree Demonstration Area

*Growth in Inches per Decade*
*by Species, Treatment, and First Growing Season (Year) Following Crown-Touching Release*
*in a Pole-Size Stand on Abandoned Agricultural Land*

| Species | Treatment | 1993 |
|---|---|---|
| YP | Control | 2.3 |
| YP | CT | 5.5 |
| RO | Control | 2.3 |
| RO | CT | 4.5 |
| BC | Control | 1.5 |
| BC | CT | 2.7 |
| BO | Control | 1.6 |
| BO | SILV | 2.6 |
| BO | CT | 3.7 |

Explanation:

The Raystown Lake Crop Tree Demonstration Area is located on abandoned agricultural land that is now managed by the U.S. Army Corps of Engineers. The Control, SILV, and CT (crown-touching) releases are similar to the treatments described for the Coopers Rock Crop Tree Demonstration Area. Because there is only one year of monitored growth, it is prudent to be cautious with observations. However, here are some preliminary thoughts.

Observations:

1. In contrast to the Coopers Rock Crop Tree Demonstration Area and Perkey Tree Farm and Stewardship Forest, the yellow-poplar seems to be growing very well. During this first year, the released yellow-poplar outgrew the released red oak. The initial performance of these yellow-poplar poles and small sawtimber trees was a surprise to me. I was afraid they might not be that well adapted to this site.

2. All species of crop trees released (yellow-poplar, red oak, black cherry, and black oak) have dramatically responded to release.

To summarize, with every management system, there needs to be a mechanism for feedback so the manager knows how the system is working. Monitoring crop tree growth using groups of 10 similar trees and observing their growth rate in inches/decade is a simple and useful means for managers to get feedback on how management activities are working.

Experience has shown that one of the most effective ways of achieving on-the-ground success is to have the personal contact with landowners by field personnel. Experience has also shown that one of the primary reasons people own land is for enjoyment of the wildlife, whether it be hunting, observing, or just knowing the creatures are out there. Maryland chose to combine these two items by using a portion of our federal Stewardship dollars to hire four (one per region) contractual wildlife biologists to provide wildlife management expertise in the preparation of Stewardship plans. These biologists work as part of the team that prepares the plans. On those properties whose owners have wildlife as the primary objective, they are the primary author. Our hiring of these biologists has been very successful and allowed us to reach a greater audience with the kind of assistance our foresters could not fully deliver.

The five-year Stewardship Plan set specific goals for the program in terms of numbers and acres of plans. Despite a slow start, we are on target to meet those goals. We have prepared 1,308 Stewardship plans on 69,522 acres in the first four years of the program. The demand for our assistance remains high, and in many areas it has increased due to educational efforts, a greater public awareness of environmental benefits, and the property tax benefits of our Forest Conservation and Management Agreement Program.

While the Stewardship Program has succeeded in placing land under good forest stewardship, the Stewardship Incentive Program (SIP) has been instrumental in helping many landowners implement the practices called for in their plans. SIP provides cost-sharing for a much broader range of practices than other cost-share programs, enabling landowners to accomplish much more. Maryland landowners have certainly taken advantage of this. The Wildlife Habitat Improvement Practice (SIP-8) is one of the most popular of the SIP practices.

Although the Forest Stewardship Program and the Stewardship Incentive Program are new, many of our landowners have been practicing good forest stewardship for years. With the advent of these programs, new tools and opportunities are available to them. Practices that may have been delayed or put off entirely because of lack of funding are now able to be implemented.

A perfect example is a landowner in western Washington County. The property consists of 31 forested acres, 159 acres of pasture, a stream, and two ponds. It has been in the family for fifty years, and the forested area has been managed since 1958. The management plan for this property was revised in late 1991 and early 1992 to meet Stewardship guidelines. Since then a number of management activities under SIP have been conducted, as well as a few others. Among the SIP practices are planting stream buffers, fencing the plantings to exclude livestock to protect the seedlings and water quality, installing wood duck and bluebird boxes in appropriate locations, establishing and enhancing wetlands for waterfowl habitat and water quality, and planting high-quality hardwood species such as ash and walnut with tree shelters. The property has been used several times for tours and workshop/field day stops as an example of what good forest stewardship can accomplish.

This scene is repeated often throughout the many habitats of Maryland — from the mountainous oak-hickory forests of Garrett County to the loblolly pine and marshes of the lower Eastern Shore. The forest landowners of Maryland are becoming more aware of the values their forestlands have, and they are taking steps to improve and protect those values. The Forest Stewardship Program and the Stewardship Incentive Program are major reasons for this increased awareness and interest. We expect these programs will continue to have an impact on our forest resources well into the future.

critters. The plan was that the hole in the top of the can would permit moisture to enter, keeping the soil and acorn at near normal conditions. I discussed this idea with Clay, and he assured me without reservation that the idea was doomed to absolute and unequivocal failure. However, he said if I did go ahead it would be a great learning experience for me.

On a chilly weekend in December of 1992, I planted my first acorns in pop cans. When I went back the next weekend, they were still there, and everything seemed to be OK. I felt encouraged, and even a little cocky. However, the following weekend when I returned to the farm, I was greeted with disaster. Pop can after pop can was overturned, and the tasty morsel I had so carefully placed inside was gone.

I would not be defeated that easily. I decided to replant because I had plenty of acorns. However, if those critters were going to play tough, I decided to escalate the war. I would fix it so they couldn't just pull that can out of the ground. I cut two pieces of roundwood about 16 inches long and laid them side-by-side with the area where they adjoined directly over the buried pop can. I reasoned this would let moisture get down to the can, but the squirrels, ground hogs, chipmunks, or whatever my unseen enemy was would not be able to pull the can up.

*Clay Smith saying, "I told you so." Looks a littly cocky, doesn't he?*

Time passed. It seemed to be working. Then, just as I was starting to feel cocky again, they struck with a mighty fury. My 16-inch pieces of wood were still laying right there, unmoved, but the pop cans were pulled out of the ground, laying beside them, and, once again, all the tasty morsels were gone.

I remembered that Clay had suggested that if I were going to try something like this I should at least wait until spring to do it. That would minimize the exposure to the enemy, and perhaps some of my acorns would make it to May Day.

In April I planted again, and for the most part I failed again. The now very confident enemy mounted a spring offensive that left me with no more than 5 to 10 percent of my third planting intact. Then, to add insult to injury, when many of the survivors did germinate, they were still plundered while in the cradle. You see, when the shoots come up, the acorn may still be dug up and eaten. If the squirrels, chipmunks, or ground hogs don't dig them up, then the mice will bite the shoots off. Sometimes you just can't win.

## Announcements

The nationally recognized series of videos, ***Managing Your Woodlot***, has just received further recognition and endorsement in the form of a special award for excellence in communications from the National Woodland Owners Association. We congratulate Bill Kidd, Jim Kochenderfer, and Clay Smith, along with all the other folks who have worked so hard to make these videos available to the forestry community. The newest addition to this set, ***Harvesting: Best Management Practices***, is now available. It includes a reference manual. Copies of this package can be purchased at a cost of $15.00 each from the following source:

Gloria Felton
West Virginia University
P.O. Box 6125
Morgantown, WV 26506
Telephone: 304/293-2941, extension 450

A capstone to this six-part set which will be titled ***Forest Stewardship*** is currently in production. This video is intended to help landowners understand the importance of their forest resources and how they can be protected, improved, perpetuated, and used to benefit the landowner and society. Watch for an announcement about the availability of this upcoming product.

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Publication No. 821, ***Deer and Agriculture in West Virginia***, by the West Virginia University Extension Service, does more than answer the question, "How Many Deer in West Virginia?" It discusses the biological, economic, and ethical carrying capacity of the animal in the state. It also suggests potential solutions when the answer to the above question is "too many." For copies, contact Bill Grafton, WVU Extension Service - 311B, P.O. Box 6125, Morgantown, WV 26506-6125, Telephone 304/293-4797, extension 493.

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A video titled ***Forest Stewardship at the Urban/Rural Interface*** is now available from Ron Phelps, Pocono Northeast RC&D, 395 Bedford Street, Clarks Summit, Pennsylvania 18411. It contains interviews with forest landowners, rural homeowners, developers, and natural resource managers who tell the story of the changes in Pike County, Pennsylvania, as it evolves from a sparsely populated rural area to a bedroom community of New York City. The viewer is introduced to the concepts of forest stewardship and managing natural resources.

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Limited copies of the publication, ***Storms Over the Urban Forest***, are available from Lisa Burban, USDA Forest Service, NA-S&PF, 1992 Folwell Avenue, St. Paul, MN 55108, Telephone 612/649-5245. This publication is a guide for community leaders, urban foresters, citizen activists, and others in the urban forestry community to use in natural disaster planning and mitigation.